



# Using the Catalyst 2924M XL DC Ethernet Switch

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**April 21, 2000**

This document describes the Catalyst 2924M XL DC Ethernet switch (hereafter referred to as the switch) and provides the instructions for rack-mounting it and connecting it to a DC-input power source.



**Note**

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This document uses the term *switch* to refer to the Catalyst 2924M XL DC switch. In this document, the term *switch* does not refer to a telco device.

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## Contents

- “Conventions” section on page 2
- “Introduction” section on page 6
- “DC-Power Specifications and Agency Approvals” section on page 7
- “Warnings” section on page 8
- “Preparing for Installation” section on page 9



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- “Rack-Mounting the Switch” section on page 10
- “Grounding the Switch” section on page 12
- “Wiring the DC-Input Power Source” section on page 15
- “Translated Safety Warnings” section on page 21
- “Related Documentation” section on page 38
- “Obtaining Documentation” section on page 38
- “Obtaining Technical Assistance” section on page 39

## Conventions

This document uses the following conventions and symbols for notes, cautions, and warnings:



**Note**

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Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.

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**Caution**

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Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

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**Warning**

This warning symbol means *danger*. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to Appendix C, "Translated Safety Warnings."

**Waarschuwing**

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het document *Regulatory Compliance and Safety Information* (Informatie over naleving van veiligheids- en andere voorschriften) raadplegen dat bij dit toestel is ingesloten.

**Varoitus**

Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Tässä julkaisussa esiintyvien varoitusten käännökset löydät laitteen mukana olevasta *Regulatory Compliance and Safety Information* -kirjasesta (määräysten noudattaminen ja tietoa turvallisuudesta).

- Attention** Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez le document *Regulatory Compliance and Safety Information* (Conformité aux règlements et consignes de sécurité) qui accompagne cet appareil.
- Warnung** Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt. Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Dokument *Regulatory Compliance and Safety Information* (Informationen zu behördlichen Vorschriften und Sicherheit), das zusammen mit diesem Gerät geliefert wurde.
- Avvertenza** Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nel documento *Regulatory Compliance and Safety Information* (Conformità alle norme e informazioni sulla sicurezza) che accompagna questo dispositivo.
- Advarsel** Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i dokumentet *Regulatory Compliance and Safety Information* (Overholdelse av forskrifter og sikkerhetsinformasjon) som ble levert med denne enheten.

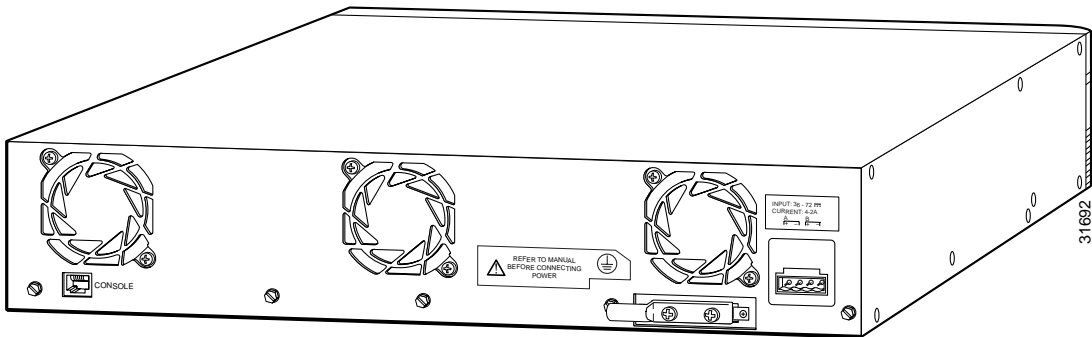
- Aviso** Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. Para ver as traduções dos avisos que constam desta publicação, consulte o documento *Regulatory Compliance and Safety Information* (Informação de Segurança e Disposições Reguladoras) que acompanha este dispositivo.
- ¡Advertencia!** Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. Para ver una traducción de las advertencias que aparecen en esta publicación, consultar el documento titulado *Regulatory Compliance and Safety Information* (Información sobre seguridad y conformidad con las disposiciones reglamentarias) que se acompaña con este dispositivo.
- Varning!** Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. Se förklaringar av de varningar som förkommer i denna publikation i dokumentet *Regulatory Compliance and Safety Information* (Efterrättelse av föreskrifter och säkerhetsinformation), vilket medföljer denna anordning.
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# Introduction

The Catalyst 2924M XL DC switch is equipped with an on-board direct-current (DC) power converter. The DC-power converter has dual feeds (A and B) that are diode *OR'd* into a single power block.

The front panel of the switch provides 24 10/100 ports, 2 high-speed expansion slots, a set of LEDs, and a Mode button. The rear panel of the switch (Figure 1) provides an RJ-45 console port, a ground lug, and a DC power connector (also referred to as the terminal block header). The switch is shipped with a terminal block plug inserted in the DC power connector. For more information about the front and rear panels of the switch, refer to the *Catalyst 2900 Series XL Installation Guide*.

**Figure 1** Back Panel of the Switch



# DC-Power Specifications and Agency Approvals

The switch is for use in DC operating environments and has the following power-source specifications and agency approvals:

**Table 1** *Power Specifications for the Catalyst 2924M XL DC Switch*

Description	Design Specification
Power	100W, -36 to -72 VDC
Wire gauge for power connections	12 or 14 AWG <sup>1</sup> (6 AWG for protective earth)
Branch circuit protection	5A

1. AWG = American Wire Gauge

**Table 2** *Agency Approvals*

Safety	EMC	NEBS
UL 1950/CSA 22.2 No. 950	FCC Part 15 Class A	GR-1089
IEC 950/EN 60950	EN 55022, EN 50082-1 Class A (CISPR 22 Class A)	GR-63
NOM 019	VCCI Class A	
CE	AS/NZS 3548 Class A	
	BSMI	
	CE	

# Warnings



Warning

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The customer 48V power system must provide reinforced insulation between the primary AC power and the 48-VDC output.

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Warning

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The Catalyst 2924M XL DC switch is intended for Local Area Network (LAN) connections only. This unit is not certified for use in Public Telephone Networks.

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Warning

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The Catalyst 2924M XL DC switch contains no field-replaceable units (FRUs). Do not open the chassis or attempt to remove or replace any components. For information about obtaining service for this unit, contact your reseller or Cisco sales representative.

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Warning

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Read the installation instructions before you connect the system to its power source.

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Warning

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Connect the equipment to a single, extra-low voltage (SELV) source.

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Warning

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This equipment is to be installed in a restricted access area.

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Warning

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Ethernet cables must be shielded when used in a central office environment.

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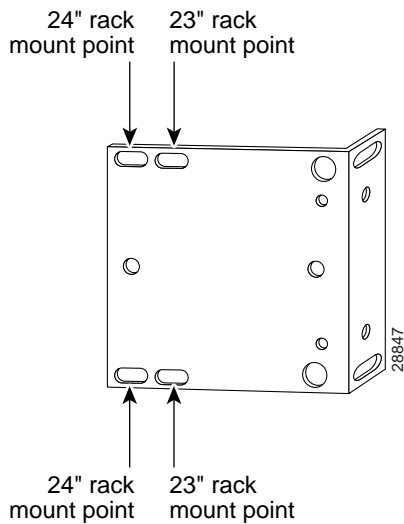
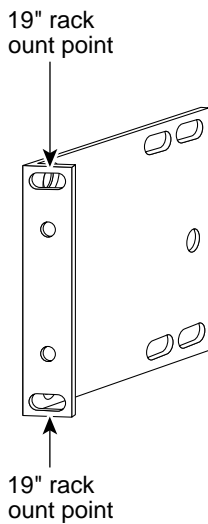
# Preparing for Installation

Follow these steps before rack-mounting and grounding the switch or wiring it to a DC-input power source.

- 
- Step 1**    Unpack the shipping box, and verify its contents. In addition to the items described in the *Catalyst 2900 Series XL Installation Guide*, the switch is shipped with a DC terminal block plug installed on the switch back panel.
- Step 2**    Obtain the following necessary tools and equipment:
- Ratcheting torque screwdriver with a Phillips head that exerts up to 15 pound-force inches (lbf-in.) of pressure
  - Panduit crimping tool with optional controlled cycle mechanism, model CT-700, CT-720, CT-920, CT-930, CT-920CH, or CT-940CH
  - 6-gauge copper ground wire (insulated or noninsulated)
  - Four leads of 12- or 14-gauge copper wire
  - Wire-stripping tool(s) for stripping both 6- and 12- or 14-gauge wires
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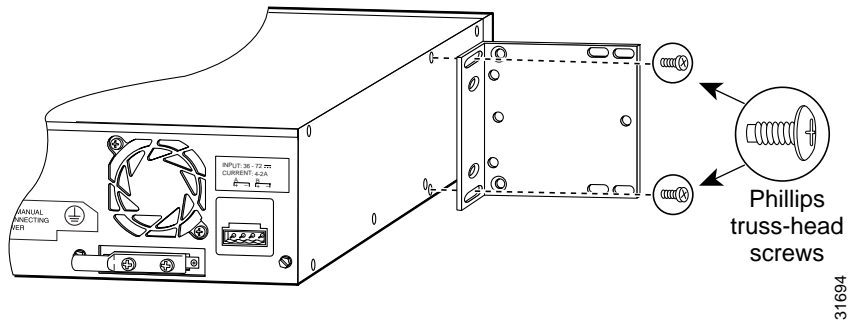
# Rack-Mounting the Switch

The rack-mounting brackets supplied with the switch can be attached to a 19-, 23-, or 24-inch rack.

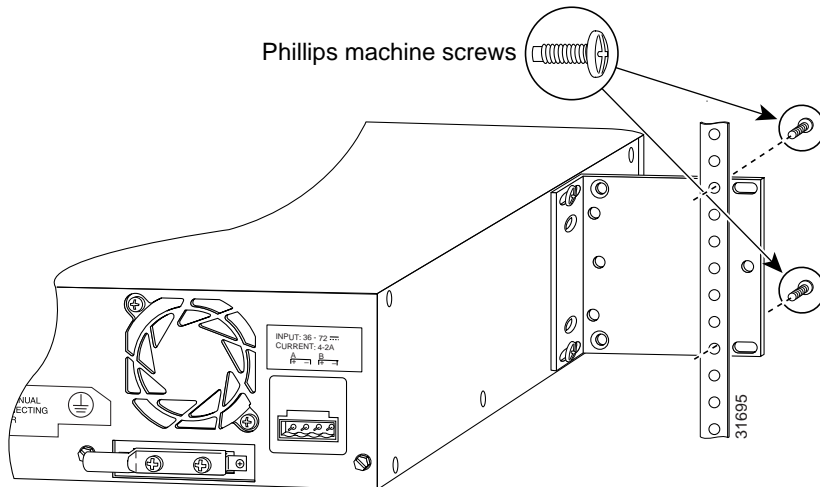


Follow these steps to center-mount the switch in a 23-inch rack. For information about installing the switch in a 19- or 24-inch rack, refer to the *Catalyst 2900 Series XL Installation Guide*.

- Step 1** Place the switch on a level surface, and use the supplied Phillips truss-head screws to attach the short side of the bracket to each side of the switch. Secure all four screws tightly, but do not overtighten them.



- Step 2** Use two of the supplied Phillips machine screws to securely attach each bracket to the rack.



# Grounding the Switch

  
Warning

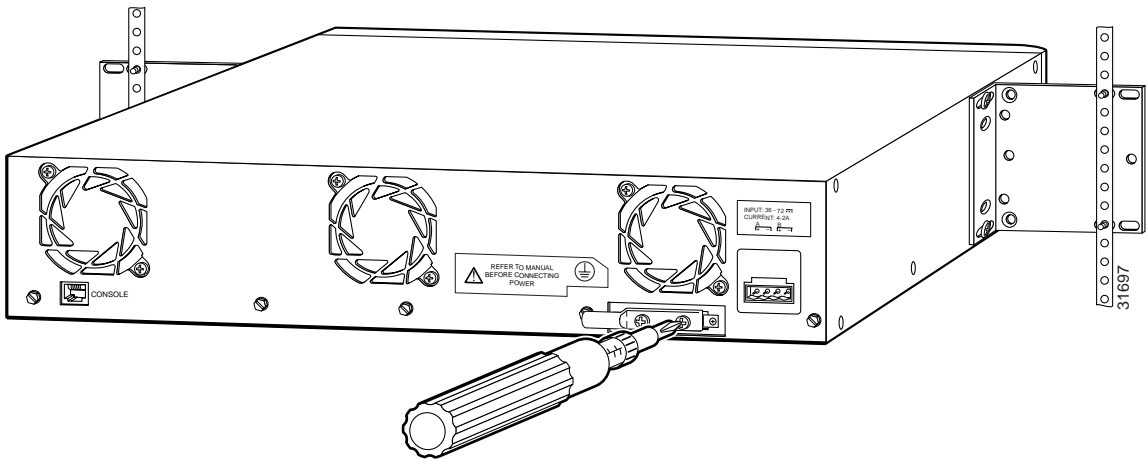
This equipment is intended to be grounded. Ensure that the host is connected to earth ground during normal use.

  
Warning

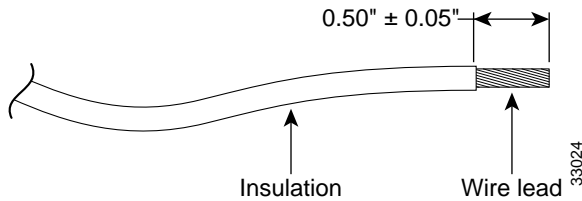
When installing the unit, the ground connection must always be made first and disconnected last.

Follow these steps to ground the switch to earth ground. Make sure to follow any grounding requirements at your site.

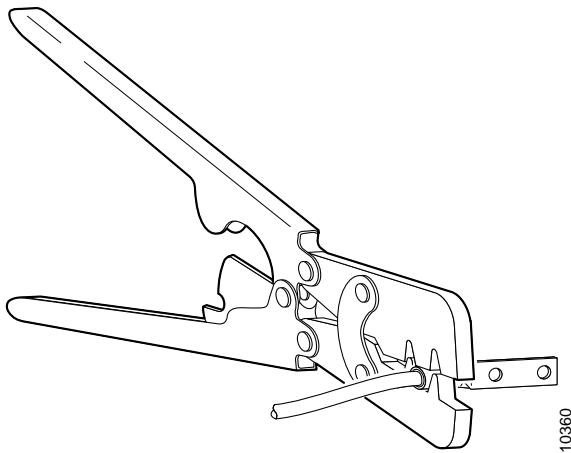
- Step 1** Use a standard Phillips screwdriver or a ratcheting torque screwdriver with a Phillips head to remove the two number-10-16 ground-lug screws and the ground lug from the rear panel of the switch.



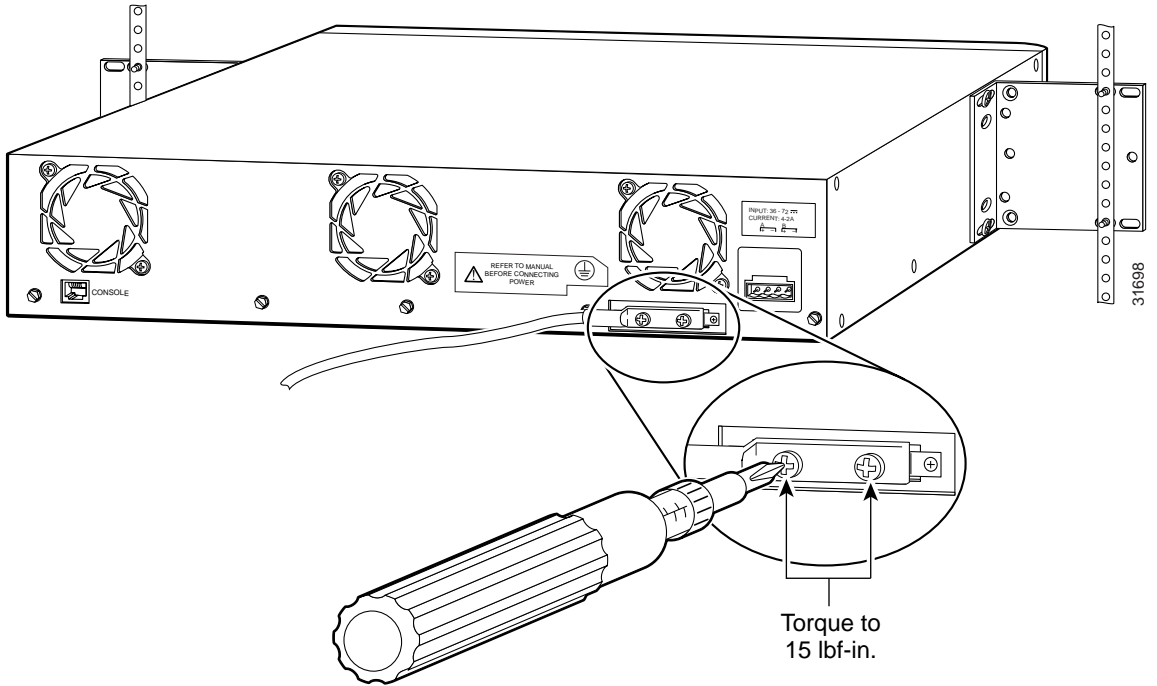
- Step 2** Set the screws and the ground lug aside.
- Step 3** If your ground wire is insulated, use a wire-stripping tool to strip the 6-gauge ground wire to 0.5 inch  $\pm$  0.05 inch as shown in this figure:



- Step 4** Slide the open end of the ground lug over the exposed area of the 6-gauge wire.
- Step 5** Using a Panduit crimping tool, crimp the ground lug to the 6-gauge wire.



- Step 6** Use the two number-10-16 screws to attach the ground lug and wire assembly to the rear panel of the switch.
- Step 7** Using a ratcheting torque screwdriver, torque each ground-lug screw to 15 lbf-in. (or 240 ounce-force inches [240 ozf-in.]).



# Wiring the DC-Input Power Source



**Warning**

Only trained and qualified personnel should be allowed to install or replace this equipment.



**Warning**

Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.



**Caution**

The switch is to be installed with 5A-branch-circuit protection.

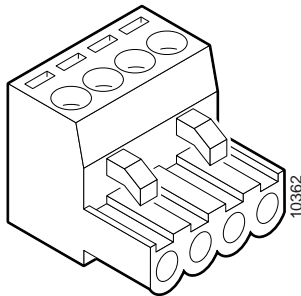


**Note**

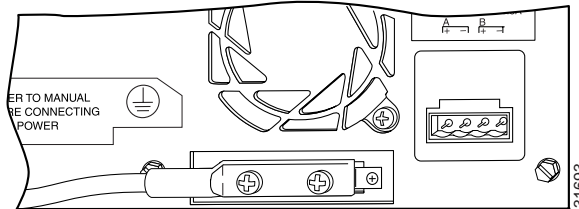
This installation must comply with all applicable codes.

Follow these steps for wiring the switch to a DC-input power source.

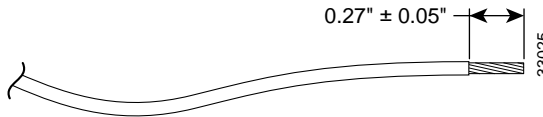
- Step 1** Locate this terminal block plug. It is shipped already inserted in the DC power connector on the switch back panel.



- Step 2** Identify the positive and negative feed positions for the terminal block connection. The wiring sequence is Return to Return and negative to negative for both the A feed wires and the B feed wires. The rear panel of the switch identifies the positive and negative positions for both the A and B feed wires.



- Step 3** Using a 12- or 14-gauge wire-stripping tool, strip each of the four wires coming from the DC-input power source to 0.27 inch  $\pm$  0.05 inch. Do not strip more than 0.29 inches of insulation from the wire. Stripping more than the recommended amount of wire can leave exposed wire from the terminal block plug after installation.



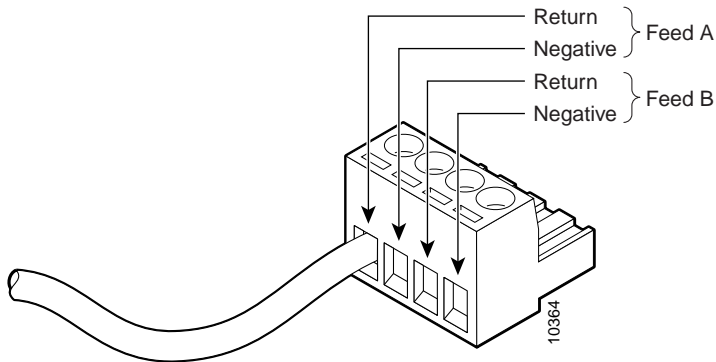


- Step 4** Insert the exposed wire of one of the four DC-input power source wires into the terminal block plug. Make sure that you cannot see any wire lead. Only wire *with insulation* should extend from the terminal block plug.



**Warning**

**An exposed wire lead from a DC-input power source can conduct harmful levels of electricity. Be sure that no exposed portion of the DC-input power source wire extends from the terminal block plug.**

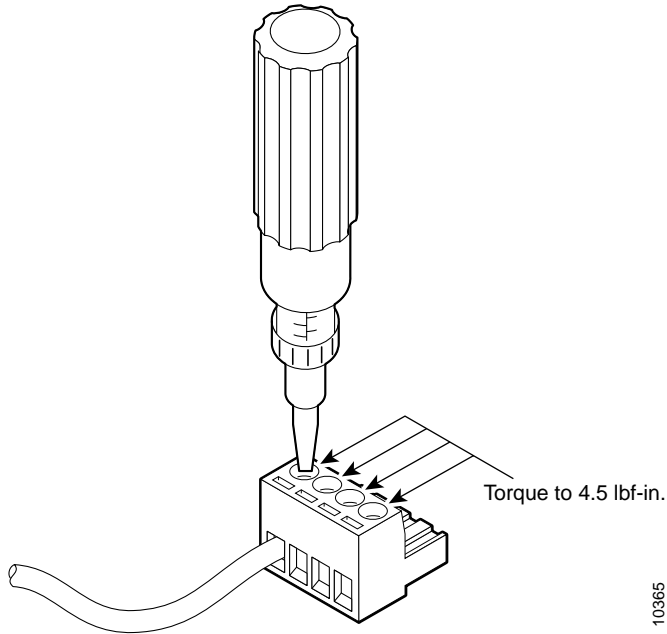


- Step 5** Use a ratcheting torque screwdriver to torque the terminal block captive screw (above the installed wire lead) to 4.5 lbf-in. (72 ozf-in.).

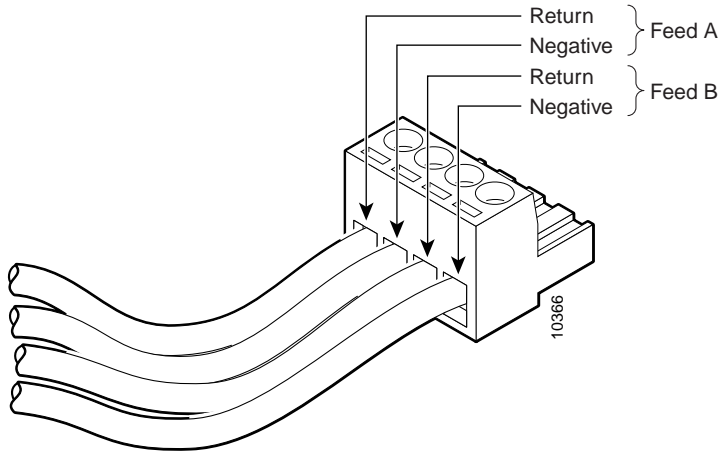


**Caution**

Do not overtorque the terminal-block captive screws. The recommended maximum torque is 4.5 lbf-in. (72 ozf-in.).



- Step 6** Repeat steps 4 and 5 for the remaining three DC-input power source wires. The following figure shows the completed wiring of a terminal block plug.

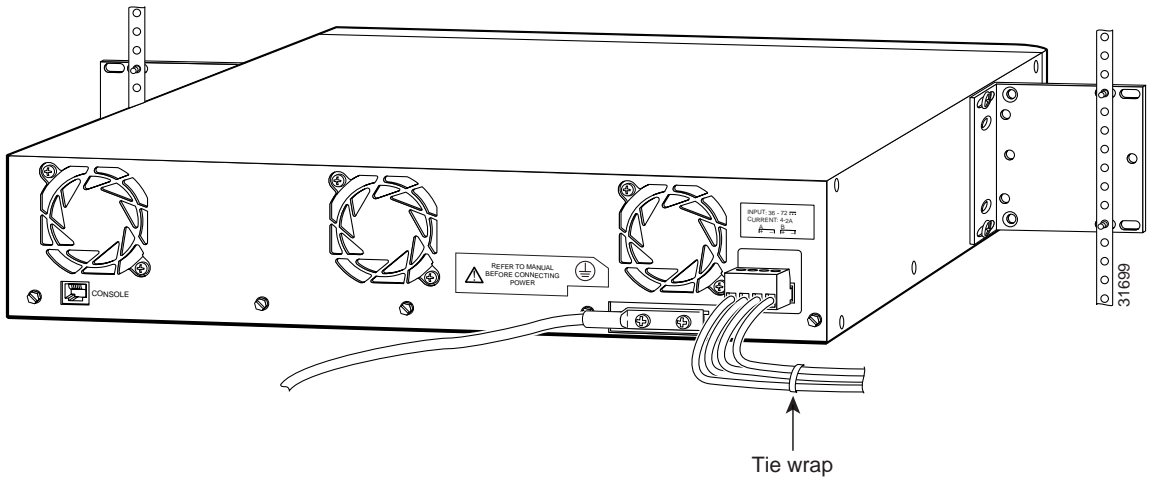


**Step 7** Insert the terminal block plug into the terminal block header on the rear panel of the switch as shown in the figure.



**Caution**

Secure the wires coming from the terminal block so that they will not be disturbed by casual contact. For example, use tie wraps to secure the wires to a rack.



**Step 8** Remove the tape from the circuit-breaker switch handle, and restore power by moving the circuit breaker handle to the on position.

# Translated Safety Warnings

This section provides translations of the safety warnings used in this document.

## Reinforced Insulation Warning



Warning

The customer 48V power system must provide reinforced insulation between the primary AC power and the 48-VDC output.

Waarschuwing

Het 48 volt stroomstelsel van de klant dient versterkte isolatie tussen de primaire wisselstroom en de 48 VDC-uitgang te verschaffen.

Varoitus

Asiakkaan 48 voltin virtajärjestelmän on tarjottava vahvistettu eriste ensisijaisen vaihtovirtalähteen ja 48 voltin tasavirtaliitännän välille.

Attention

Le bloc d'alimentation 48 volts du client doit assurer une isolation renforcée entre l'alimentation CA principale et la sortie 48 V CC.

Warnung

Das 48-Volt-Stromsystem des Kunden muß eine verstärkte Isolierung zwischen dem primären Wechselstrom und dem 48 VDC-Output aufweisen.

Avvertenza

Il sistema elettrico di 48 volt del cliente deve avere un isolamento fra l'alimentatore elettrico AC e il VDC 48 di output.

Advarsel

Kundens eget 48 volts strømopplegg må ha forsterket isolasjon mellom den primære vekselstrømskilden og den 48 volts likestrømsutgangen.

Aviso

O sistema habitual de corrente de 48 volts deverá fornecer isolamento reforçado entre a corrente alternada (AC) principal e a saída de 48 VDC (tensão em corrente contínua).

- ¡Advertencia!** Aviso: El sistema del cliente de 48 voltios debe proporcionar aislamiento reforzado entre la energía principal AC y la potencia de salida de 48 VDC.
- Warning!** Kundens 48-volt strömsystem måste vara försett med förstärkt isolering mellan den primära växelströmmen och utmatningen av 48 V likström.
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## LAN Connections Only Warning



**Warning**

The Catalyst 2924M XL DC switch is intended for Local Area Network (LAN) connections only. This unit is not certified for use in Public Telephone Networks.

**Waarschuwing**

De Catalyst 2924M XL DC schakelaar is alleen bestemd voor LAN-verbindingen. Deze eenheid is niet geautoriseerd voor gebruik in publieke telefoonnetwerken.

**Varoitus**

Catalyst 2924M XL DC -kytkin on tarkoitettu käytettäväksi ainoastaan lähiverkkoliitoksissa (LAN). Tätä laitetta ei ole hyväksytty yleisiä puhelinverkkoja varten.

**Attention**

Le commutateur Catalyst 2924M XL DC est conçu uniquement pour les connexions de réseau local (LAN). Il n'est pas homologué pour les réseaux publics de ligne téléphonique.

**Warnung**

Der Catalyst 2924M XL DC-Switch ist ausschließlich für Nahverkehrsnetze (LANs) konzipiert. Diese Einheit ist nicht für die Benutzung in öffentlichen Telefonnetzwerken zertifiziert

**Avvertenza**

Lo switch Catalyst 2924M XL DC e' stato progettato unicamente per connessioni Local Area Network (LAN). Questo dispositivo non è stato certificato per l'utilizzo sulle reti telefoniche pubbliche.

- Advarsel**      **Nettverksbryteren Catalyst 2924M XL DC er bare beregnet på tilkobling til LAN-nettverk (Local Area Network). Denne enheten er ikke godkjent til bruk i offentlige telefonnettverk.**
- Aviso**          **El conmutador Catalyst 2924M XL DC ha sido diseñado para su uso exclusivo con conexiones WAN (Redes de área amplia). Esta unidad no ha recibido certificación para su uso en redes telefónicas públicas.**
- ¡Advertencia!**      **Le commutateur Catalyst 2924M XL DC est conçu uniquement pour les connexions de réseau local (LAN). Il n'est pas homologué pour les réseaux publics de ligne téléphonique.**
- Varning!**        **Omkopplaren Catalyst 2924M XL DC är endast avsedd för anslutning till lokala nätverk (LAN). Enheten är inte licensierad för användning i allmänna telefonnät.**
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## No Field-Replaceable Units Warning



### Warning

The Catalyst 2924M XL DC switch contains no field-replaceable units (FRUs). Do not open the chassis or attempt to remove or replace any components. For information about obtaining service for this unit, contact your reseller or Cisco sales representative.

### Waarschuwing

De Catalyst 2924M XL DC bevat geen FRU's (field-replaceable units ofwel veldvervangbare eenheden). Open het chassis niet en probeer geen onderdelen te verwijderen of te vervangen. Voor informatie omtrent het onderhoud voor deze eenheid dient u contact op te nemen met uw doorverkoper of verkoopvertegenwoordiger van Cisco.

### Varoitus

Catalyst 2924M XL DC ei sisällä kenttäkorjattavia laitteita. Runkoa ei saa avata, eikä osia saa yrittää poistaa tai korjata. Laitteen huoltoa koskevia tietoja saa jälleenmyyjältä tai Ciscon myyntiedustajalta.

### Attention

Le Catalyst 2924M XL DC ne dispose pas d'unités remplaçables sur site (FRU). Il est recommandé de ne pas ouvrir le châssis ni de retirer ou remplacer des composants. Pour plus de détails sur la maintenance de cette unité, contactez votre revendeur ou votre ingénieur commercial Cisco.

### Warnung

Der Catalyst 2924M XL DC enthält keine vor Ort austauschbaren Einheiten (FRUs). Das Gehäuse nicht öffnen und Komponenten nicht entfernen oder ersetzen. Serviceinformationen zu dieser Einheit erhalten Sie von Ihrem Wiederverkäufer oder von Ihrem Cisco-Vertreter.

### Avvertenza

Catalyst 2924M XL DC non ha componenti sostituibili sul posto (FRU). Non aprite lo chassis o tentate di rimuovere o sostituire componenti. Per maggiori informazioni sui servizi di assistenza per questo dispositivo, contattate il vostro rivenditore Cisco.



- Advarsel** Catalyst 2924M XL DC inneholder ingen kunde-utskiftbare deler (FRU-deler). Gjør ikke forsøk på å åpne kabinetet eller fjerne eller skifte ut noen av komponentene. Ta kontakt med forhandleren eller en Cisco-salgsrepresentant for informasjon om hvor det kan utføres service på enheten.
- Aviso** O interruptor Catalisador 2924M XL DC não contém nenhuma unidade substituível em campo. Não abrir o chassis ou tentar remover ou substituir quaisquer componentes. Para mais informações sobre a manutenção desta unidade, contactar o seu revendedor ou um representante de vendas da Cisco.
- ¡Advertencia!** El Catalyst 2924M XL DC no contiene componentes reemplazables en las instalaciones (Field-Replaceable Units, FRU). No abra el chasis ni intente reemplazar componentes. Para más información sobre cómo reparar este aparato, póngase en contacto con su distribuidor o representante de Cisco.
- Varning!** Catalyst 2924M XL DC innehåller inte några enheter som kan bytas ut på fältet. Öppna inte chassit och försök inte heller att ta bort eller byta ut några delar. Kontakta återförsäljaren eller representanten för Cisco om du behöver information om service av enheten.
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## Installation Warning



**Warning**

Read the installation instructions before you connect the system to its power source.

**Waarschuwing**

Raadpleeg de installatie-aanwijzingen voordat u het systeem met de voeding verbindt.

**Varoitus**

Lue asennusohjeet ennen järjestelmän yhdistämistä virtalähteeseen.

**Attention**

Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

**Warnung**

Lesen Sie die Installationsanweisungen, bevor Sie das System an die Stromquelle anschließen.

**Avvertenza**

Consultare le istruzioni di installazione prima di collegare il sistema all'alimentatore.

**Advarsel**

Les installasjonsinstruksjonene før systemet kobles til strømkilden.

**Aviso**

Leia as instruções de instalação antes de ligar o sistema à sua fonte de energia.

**¡Advertencia!**

Ver las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

**Varning!**

Läs installationsanvisningarna innan du kopplar systemet till dess strömförsörjningsenhet.

**警告** システムを電源に接続する前に、インストラクションについての説明書を必ずお読みください。

## SELV Source Warning



<b>Warning</b>	Connect the equipment to a single, extra-low voltage (SELV) source.
<b>Waarschuwing</b>	Sluit de uitrusting aan op een enkele bron met extra-lage spanning (SELV).
<b>Varoitus</b>	Liitä laite yhteen erittäin alhaisen jännitteen (SELV) lähteeseen.
<b>Attention</b>	Cet équipement doit être connecté à une alimentation SELV (Single Extra-Low Voltage).
<b>Warnung</b>	Schließen Sie das Gerät an eine einzelne Stromquelle mit Niedrigspannung (extra-low voltage - SELV) an.
<b>Avvertenza</b>	Collegate questo apparato a un alimentatore singolo, di basso voltaggio (SELV).
<b>Advarsel</b>	Koble utstyret til en enkel, ekstra lav spenningskilde (SELV).
<b>Aviso</b>	Conecte o equipamento a uma única fonte de segurança de baixa tensão (SELV).
<b>¡Advertencia!</b>	Conecte el equipo a una única fuente de voltaje extra-bajo (SELV, extra-low voltage source).
<b>Varning!</b>	Anslut utrustningen till en enstaka, SELV (skyddskrets för mycket låg spänning) strömförsörjningskälla.

## Restricted Access Warning



Warning

This equipment is to be installed in a restricted access area.

Waarschuwing

De uitrusting dient geïnstalleerd te worden in een gebied met beperkte toegang.

Varoitus

Laite tulee asentaa tilaan, johon on rajoitettu pääsy.

Attention

Cet équipement doit être installé uniquement dans une zone à accès limité.

Warnung

Die Ausrüstung muß in einem Bereich installiert werden, der gegen unbefugtes Betreten geschützt ist.

Avvertenza

Installate questo apparato unicamente in zone di accesso regolamentate.

Advarsel

Utstyret skal installeres på et sted med begrenset adgang.

Aviso

O equipamento é para ser instalado numa área de acesso restrito.

¡Advertencia!

El equipo debe instalarse en una zona de acceso restringido.

Varning!

Utrustningen måste installeras på plats med åtkomst endast för behörig personal.

## Shielded Ethernet Cables Warning



<b>Warning</b>	Ethernet cables must be shielded when used in a central office environment.
<b>Waarschuwing</b>	Ethernetkabels dienen beveiligd te worden als ze in een centrale kantooromgeving worden gebruikt.
<b>Varoitus</b>	Ethernet-kaapelit täytyy suojata, kun niitä käytetään yleisessä toimistoympäristössä.
<b>Attention</b>	Pour une utilisation en site central, les câbles Ethernet doivent être impérativement blindés.
<b>Warnung</b>	Ethernet-Kabel müssen abgeschirmt werden, wenn sie in einer Zentrale eingesetzt werden.
<b>Avvertenza</b>	I cavi Ethernet devono essere schermati se utilizzati in un ambiente di ufficio centrale.
<b>Advarsel</b>	Ethernet-kabler skal være skjernet når de brukes i et sentralt kontormiljø.
<b>Aviso</b>	Os cabos "Ethernet" deverão estar armados quando usados em ambiente de escritório central.
<b>¡Advertencia!</b>	Los cables Ethernet deben estar protegidos cuando se usen dentro de una oficina central.
<b>Varning!</b>	Ethernetkablar måste vara avskärmade vid användning i central kontorsmiljö.

## Grounded Equipment Warning



**Warning**

This equipment is intended to be grounded. Ensure that the host is connected to earth ground during normal use.

**Waarschuwing**

Deze apparatuur hoort geaard te worden. Zorg dat de host-computer tijdens normaal gebruik met aarde is verbonden.

**Varoitus**

Tämä laitteisto on tarkoitettu maadoitettavaksi. Varmista, että isäntälaitte on yhdistetty maahan normaalikäytön aikana.

**Attention**

Cet équipement doit être relié à la terre. S'assurer que l'appareil hôte est relié à la terre lors de l'utilisation normale.

**Warnung**

Dieses Gerät muß geerdet werden. Stellen Sie sicher, daß das Host-Gerät während des normalen Betriebs an Erde gelegt ist.

**Avvertenza**

Questa apparecchiatura deve essere collegata a massa. Accertarsi che il dispositivo host sia collegato alla massa di terra durante il normale utilizzo.

**Advarsel**

Dette utstyret skal jordes. Forviss deg om vertsterminalen er jordet ved normalt bruk.

- Aviso** Este equipamento deverá estar ligado à terra. Certifique-se que o host se encontra ligado à terra durante a sua utilização normal.
- ¡Advertencia!** Este equipo debe conectarse a tierra. Asegurarse de que el equipo principal esté conectado a tierra durante el uso normal.
- Varning!** Denna utrustning är avsedd att jordas. Se till att värdenheten är jordad vid normal användning.
- 

**警告** この装置はアースを必要とするものです。通常動作時は、ホストがアースされていることを確認してください。

## Ground Connection Warning



Warning

When installing the unit, the ground connection must always be made first and disconnected last.

Waarschuwing

Bij de installatie van het toestel moet de aardverbinding altijd het eerste worden gemaakt en het laatste worden losgemaakt.

Varoitus

Laitetta asennettaessa on maahan yhdistäminen aina tehtävä ensiksi ja maadoituksen irti kytkeminen viimeiseksi.

Attention

Lors de l'installation de l'appareil, la mise à la terre doit toujours être connectée en premier et déconnectée en dernier.

Warnung

Der Erdanschluß muß bei der Installation der Einheit immer zuerst hergestellt und zuletzt abgetrennt werden.

Avvertenza

In fase di installazione dell'unità, eseguire sempre per primo il collegamento a massa e disconnetterlo per ultimo.

Advarsel

Når enheten installeres, må jordledningen alltid tilkobles først og frakobles sist.

Aviso

Ao instalar a unidade, a ligação à terra deverá ser sempre a primeira a ser ligada, e a última a ser desligada.

¡Advertencia!

Al instalar el equipo, conectar la tierra la primera y desconectarla la última.

Varning!

Vid installation av enheten måste jordledningen alltid anslutas först och kopplas bort sist.



## Qualified Personnel Warning



**Warning**

Only trained and qualified personnel should be allowed to install or replace this equipment

**Waarschuwing**

Installatie en reparaties mogen uitsluitend door getraind en bevoegd personeel uitgevoerd worden.

**Varoitus**

Ainoastaan koulutettu ja pätevä henkilökunta saa asentaa tai vaihtaa tämän laitteen.

**Avertissement**

Tout installation ou remplacement de l'appareil doit être réalisé par du personnel qualifié et compétent.

**Achtung**

Gerät nur von geschultem, qualifiziertem Personal installieren oder auswechseln lassen.

**Avvertenza**

Solo personale addestrato e qualificato deve essere autorizzato ad installare o sostituire questo apparecchio.

**Advarsel**

Kun kvalifisert personell med riktig opplæring bør montere eller bytte ut dette utstyret.

**Aviso**

Este equipamento deverá ser instalado ou substituído apenas por pessoal devidamente treinado e qualificado.

**¡Atención!**

Estos equipos deben ser instalados y reemplazados exclusivamente por personal técnico adecuadamente preparado y capacitado.

**Varning**

Denna utrustning ska endast installeras och bytas ut av utbildad och kvalificerad personal.

## DC Power Disconnection Warning



### Warning

Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.

### Waarschuwing

Voordat u een van de onderstaande procedures uitvoert, dient u te controleren of de stroom naar het gelijkstroom circuit uitgeschakeld is. Om u ervan te verzekeren dat alle stroom UIT is geschakeld, kiest u op het schakelbord de stroomverbreker die het gelijkstroom circuit bedient, draait de stroomverbreker naar de UIT positie en plakt de schakelaarhendel van de stroomverbreker met plakband in de UIT positie vast.

### Varoitus

Varmista, että tasavirtapiirissä ei ole virtaa ennen seuraavien toimenpiteiden suorittamista. Varmistaaksesi, että virta on KATKAISTU täysin, paikanna tasavirrasta huolehtivassa kojetaulussa sijaitseva suojakytkin, käännä suojakytkin KATKAISTU-asentoon ja teippaa suojakytkimen varsi niin, että se pysyy KATKAISTU-asennossa.

### Attention

Avant de pratiquer l'une quelconque des procédures ci-dessous, vérifiez que le circuit en courant continu n'est plus sous tension. Pour en être sûr, localiser le disjoncteur situé sur le panneau de service du circuit en courant continu, placer le disjoncteur en position fermée (OFF) et, à l'aide d'un ruban adhésif, bloquer la poignée du disjoncteur en position OFF.

### Warnung

Vor Ausführung der folgenden Vorgänge ist sicherzustellen, daß die Gleichstromschaltung keinen Strom erhält. Um sicherzustellen, daß sämtlicher Strom abgestellt ist, machen Sie auf der Schalttafel den Unterbrecher für die Gleichstromschaltung ausfindig, stellen Sie den Unterbrecher auf AUS, und kleben Sie den Schaltergriff des Unterbrechers mit Klebeband in der AUS-Stellung fest.

- Avvertenza** Prima di svolgere una qualsiasi delle procedure seguenti, verificare che il circuito CC non sia alimentato. Per verificare che tutta l'alimentazione sia scollegata (OFF), individuare l'interruttore automatico sul quadro strumenti che alimenta il circuito CC, mettere l'interruttore in posizione OFF e fissarlo con nastro adesivo in tale posizione.
- Advarsel** Før noen av disse prosedyrene utføres, kontroller at strømmen er frakoblet likestrømkretsen. Sørg for at all strøm er slått AV. Dette gjøres ved å lokalisere strømbryteren på brytertavlen som betjener likestrømkretsen, slå strømbryteren AV og teipe bryterhåndtaket på strømbryteren i AV-stilling.
- Aviso** Antes de executar um dos seguintes procedimentos, certifique-se que desligou a fonte de alimentação de energia do circuito de corrente contínua. Para se assegurar que toda a corrente foi DESLIGADA, localize o disjuntor no painel que serve o circuito de corrente contínua e coloque-o na posição OFF (Desligado), segurando nessa posição a manivela do interruptor do disjuntor com fita isoladora.
- ¡Advertencia!** Antes de proceder con los siguientes pasos, comprobar que la alimentación del circuito de corriente continua (CC) esté cortada (OFF). Para asegurarse de que toda la alimentación esté cortada (OFF), localizar el interruptor automático en el panel que alimenta al circuito de corriente continua, cambiar el interruptor automático a la posición de Apagado (OFF), y sujetar con cinta la palanca del interruptor automático en posición de Apagado (OFF).
- Varning!** Innan du utför någon av följande procedurer måste du kontrollera att strömförsörjningen till likströmskretsen är bruten. Kontrollera att all strömförsörjning är BRUTEN genom att slå AV det överspänningskydd som skyddar likströmskretsen och tejpa fast överspänningskyddets omkopplare i FRÅN-läget.

## Exposed Wire Lead Warning



### Warning

An exposed wire lead from a DC-input power source can conduct harmful levels of electricity. Be sure that no exposed portion of the DC-input power source wire extends from the terminal block plug.

### Waarschuwing

Een blootgestelde verbindingsdraad van een ingangsgelijkstroombron kan gevaarlijke elektriciteitsniveaus geleiden. Zorg ervoor dat geen blootgesteld deel van het draad van de ingangsgelijkstroombron zich uitstrekt vanuit het aansluitblok van de terminal.

### Varoitus

Tasavirtalähteestä tuleva avoin johto voi johtaa vaarallisen määrän sähköä. Varmista, ettei kaapelikengän pistokkeesta tule esille lainkaan tasavirtajohdon avointa osaa.

### Attention

Pour éviter tout risque de choc électrique, vérifiez que les câbles d'alimentation secteur sont protégés par une gaine. Aucun fil dénudé ne doit apparaître hors du bloc d'alimentation du terminal.

### Warnung

Eine ungeschützte Kabelleitung von einer Gleichstrom-Eingangsspannungsquelle kann schädliche Elektrizitätslevel führen. Achten Sie darauf, daß von dem Klemmleistenstecker aus kein ungeschütztes Eingangsgleichstromkabel freiliegt.

### Avvertenza

Un cavo elettrico scoperto proveniente da un alimentatore DC-INPUT può trasmettere scariche elettriche ad elevata tensione. Assicuratevi che i cavi in uscita dall'alimentatore DC-input non presentino punti scoperti.

### Advarsel

En avdekket ledning fra en likestrømskilde kan lede farlig elektrisitet. Kontroller at ingen avdekkede deler av ledningen til likestrømskilden stikker ut av terminalens koblingsblokk.

- Aviso** Um fio condutor exposto de uma unidade de entrada de DC (corrente contínua) pode transportar níveis perigosos de electricidade. Certifique-se de que nenhuma secção exposta de um fio condutor da fonte de energia de entrada de DC se estende a partir da ficha da placa de terminais.
- ¡Advertencia!** Un cable desnudo de una fuente de entrada de alimentación de corriente directa (DC) puede conducir niveles de electricidad peligrosos. Asegúrese de que ninguna parte del cable de la fuente de alimentación de DC de entrada sale del enchufe del bloque de terminal.
- Varning!** En blottad trådleddning från en likströmsförsörjningsenhet kan utgöra en ledare för skadliga elektricitetsnivåer. Se till att inte någon blottad ledningsdel från likströmsförsörjningsenheten sticker ut från stiftplinten.
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## Related Documentation

Use the *Catalyst 2900 Series XL Installation Guide* with this document and this product.

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